

I claim:

1. A method of creating a final image which, when displayed at a target location, is perceived by viewers as being three dimensional, comprising the steps of:
 - (i) selecting a target location for the display at a display site;
 - (ii) capturing video of at least one object to be displayed in the final image, the at least one object moving in the video at a necessary perceptual speed by translating generally along a plane extending through the eyes of expected viewers and/or rotating generally about an axis perpendicular to said plane;
 - (iii) displaying the final image at the site onto a transparent screen positioned such that the final image appears at the target location in front of a background and such that the movement of the at least one object at the perceptual speed occurs.
2. The method of claim 1 wherein for rotation of the at least one object, the perceptual speed is in the range of from about 0.8% to about 10% of the size of the at least one object.
3. The method of claim 2 wherein for rotation of the at least one object, the perceptual speed is in the range of from about 1% to about 8% of the size of the at least one object.
4. The method of claim 3 wherein for rotation of the at least one object, the perceptual speed is in the range of from about 3% to about 5% of the size of the at least one object.
5. The method of claim 1 wherein for translation of the at least one object, the perceptual speed is in the range of from about 3% to about 12% of the size of the at least one object.
6. The method of claim 5 wherein for translation of the at least one object, the perceptual speed is in the range of from about 4% to about 6% of the size of the at least one object.
7. The method of claim 1 further comprising the step of, prior to step (ii), surveying the display site to identify and characterize light sources and objects which would result in visual highlights on a object displayed at the target location and in step (ii) the video of the at least one object to be displayed is captured under a recreation of the characterized light sources and objects surveyed at the target location.

8. The method of claim 1 further comprising the step of capturing a wide angle photograph of the display site about the target location and applying the captured wide angle photograph as a reflection map to the captured video of the at least one object to create the final image.

9. The method of claim 8 wherein a panoramic photograph is captured.

10. The method of claim 7 wherein a mocking stage is constructed to recreate the light sources and objects identified and characterized, the object is placed on said mocking stage in front of a chromakey backdrop and the video of the object is captured and the background removed by a chromakey process to obtain the captured video.

11. The method of claim 7 wherein the identified and characterized lights and objects are employed in computer animation system to light a model of the at least one object to be displayed and the captured video is obtained by rendering a video image of the at least one object in said computer animation system.

12. The method of claim 11, further comprising the step of capturing a wide angle photograph of the display site about the target location and applying the captured wide angle photograph as a reflection map during the rendering process.

13. The method of claim 8 wherein the wide angle photograph is obtained iteratively to update reflections on the final image as the surrounding environment changes about the target location.

14. The method of claim 1 wherein the necessary perceptual speed of the at least one object is such that movement of a point on the object along the plane of the expected viewers eyes occurs at a rate of about at least three percent of the size of the object, measured through that plane, per second relative to the background.

15. The method of claim 14 wherein the necessary perceptual speed of the at least one object is about at least five percent of the size of the object, measured through that plane, per second relative to the background.

16. The method of claim 1 wherein the necessary perceptual speed of the at least one object is rotational movement of the object about an axis not exceeding 40 degrees from an axis orthogonal to the plane of the expected viewers eyes.

17. The method of claim 1 wherein the necessary perceptual speed of the at least one object is translation movement across the display along the plane of the expected viewers eyes.

18. The method of claim 1 wherein the necessary perceptual speed of the at least one object is a combination of translational movement and rotational movement.

19. The method of claim 1 wherein the background is a moving background image behind the screen and the necessary perceptual speed is the relative speed difference between the movement of the at least one object and the speed of the moving background image.

20. A system for displaying on a two dimensional display at a target location a final image of at least one object, the final image being perceived by viewers as a three dimensional image, comprising:

- a transparent screen onto which the final image is displayed allowing a background behind said screen to also be viewed where not obscured by said final image;

- a projector to display the final image onto the screen; and

- a video source providing a final image to the projector, the final image having at least one object moving at perceptual speed upon said screen.

21. The system of claim 20 wherein the final image includes visual highlights on said at least one image corresponding to the surrounding environment at the target location.

22. The system of claim 21 further comprising a wide angle camera to intermittently capture a wide angle image of the surrounding environment from the target location and the video source employing the captured image as a reflection map to modify the visual highlights of the displayed final image.

23. The system of claim 20 further comprising at least four projectors and wherein the screen rotates such that a different one of each projectors displays a different final image on the screen

at different times.

24. A method of having the human visual perception system perceive an observed image of at least one object on a two dimensional display at a target location as a three dimensional image, comprising the steps of:

- (i) moving the at least one object in the image such that a point on the at least one object along a plane of the expected viewers eyes occurs at a perceptual speed;
- (ii) applying visual highlights to the at least one object in the image, the visual highlights including specular highlight and shadows appropriate for the object at the target location; and
- (iii) obtaining a wide angle image of the surroundings of the target location and applying this wide angle image as a reflection map to the final image of the at least one object.